

TABLE 12-50
COMPARISON OF ANALYTE CONCENTRATIONS AT TOXICITY TEST LOCATIONS WITH SEDIMENT BENCHMARKS
OUTFALL 008 DRAINAGE

REMEDIAL INVESTIGATION REPORT
STRATFORD ARMY ENGINE PLANT
STRATFORD, CONNECTICUT

LEPTOCHEIRUS TOXICITY RESULTS	SAMPLE ID	Concentration (mg/kg)			Hazard Quotient (HQ)		
		SD08001A	SD08002A	SD08003A	SD08001A	SD08002A	SD08003A
SAMPLE DATE	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99	05/19/99
% SURVIVAL	85	59 ^a	75	85	59 ^a	75	75
GROWTH*	1.14	0.29 b	1.14	1.14	0.29 b	1.14	1.14
MEAN FECUNDITY	93	25 ^b	93	93	25 ^b	93	93
MEAN OFFSPRING PRODUCTION**	64	d	35.6	64	d	35.6	35.6
Compound	ERM (mg/Kg)	13300	13200	7250			
Aluminum		16.9 NJ	21.8 N	0.84 BN			
Antimony		11.6	10.4	7	0.2	0.1	0.1
Arsenic	70	64.9 B	135	67.1			
Barium		4.7	4.1	1.4	0.5	0.4	0.15
Cadmium	9.6	2440	3500	157	6.6	9.5	0.4
Chromium	370	1240	1880	141	4.6	7.0	0.5
Copper		1	1.9	0.43 U			
Cyanide, Total		NA	NA	NA			
Hydrogen Cyanide		34600	36200	17700			
Iron		218	122	163	47.8	0.7	0.2
Lead		293	268	178			
Manganese		0.71	0.46 B	0.38 B	0.17 B	0.5	0.2
Mercury		0.00146	0.00138	0.00187			
Methyl mercury		51.6	207	189	24.5	4.0	3.7
Nickel		2.4	2.6	0.73 B			
Selenium		3.7	32.7	30.3	0.72 U	8.8	8.2
Silver		38.2	44	25.4			
Vanadium		410	380	247	100	0.6	0.2
Zinc		0.42 D	0.22	0.074			
Acetone		0.67	0.15 P	0.56	6.5 PD	0.2	0.8
2-Methylnaphthalene							9.7

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MEAN FECUNDITY	93	25 ^b	93	93	25 ^b	93
MEAN OFFSPRING PRODUCTION**	64	d	35.6	64	d	35.6
Compound	ERM (mg/Kg)					
Acenaphthene	0.5	0.32 P	0.56	11 PD	0.6	1.1
Anthracene	1.1	0.015 P	0.066 P	2.6 D	0.01	0.06
Benzo[a]anthracene	1.6	0.094	0.17	7.5 D	0.06	0.1
Benzo[a]pyrene	1.6	0.16	0.22	6.5 D	0.1	0.1
Benzo[b]fluoranthene		0.18	0.24	7.4 D		
Benzo[ghi]perylene		0.097 P	0.17	3.1 D		
Benzo[k]fluoranthene		0.082	0.13 P	4 D		
Chrysene	2.8	0.11	0.097	7.4 D	0.04	0.03
Dibenz[a,h]anthracene	0.26	0.019	0.026 P	0.56 PD	0.07	0.1
Fluoranthene	5.1	0.24 P	0.53	22 D	0.05	0.1
Fluorene	0.54	0.0091 P	0.043	1.1 PD	0.02	0.08
Indeno[1,2,3-cd]pyrene		0.078	0.094 P	3.7 D		
N-Nitrosodiphenylamine		NA	NA	NA		
Naphthalene	2.1	0.056 P	0.12	0.72 J	0.03	0.06
Phenanthrene	1.5	0.12	0.21	9.7 D	0.08	0.1
Pyrene	2.6	0.26	0.44	19 D	0.1	0.2
Total PAHs	44.792	2.06	3.75	114	0.05	0.08
Aroclor-1254		0.014 U	0.011 U	0.0071 U		
Aroclor-1260		0.2	1.5	0.076		
Total PCBs	0.18	0.297	1.58	0.127	1.650	8.778
						0.71

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MEAN FECUNDITY	93	25 ^b	93	93	25 ^b	93
MEAN OFFSPRING PRODUCTION**	64	d	35.6	64	d	35.6
Compound	ERM (mg/Kg)					
Total Organic Carbon (TOC)	188000	210000	71700			
Percent Fine Grain (<0.074 mm)	81	55	9			

Notes:

All concentrations in mg/kg

* - Growth is mean dry weight (mg/surviving organism; std. dev. not shown)

** - Mean Fecundity is % females with eggs

a - Significantly different from the control based on percent survival.

b - Samples that had no surviving organisms or significantly less survival than the control are not included in statistical analyses.

c - Sample had no surviving mature females.

d - Sample was not analyzed for offspring production because sample was already significantly different from the control based on survival.

B - report value less than Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit

D - Dilution

J - estimated value

N - Tentatively Identified Compound

P - a greater than 25% difference was detected between GC columns

U - Not detected at detection limit

W - post-digestion spike (analytical spike) is out of control limits (85%-115%), while sample absorbance is less than 50% of "spike" absorbance

NA - not applicable / not available